

SV-QSFP-100G-FR

Starview QSFP28 100GBase DR Single
Lambda SM (LC) with DDM, distance up to
2km



Features

- Supports 100Gbps
- 100G Lambda MSA 100G-FR Specification compliant
- Single 3.3V Power Supply
- Power dissipation < 4W
- Up to 2km over SMF with FEC
- QSFP28 MSA Compliant
- 4x25G electrical interface
- LC duplex connector
- Commercial case temperature range of 0°C to 70°C
- I2C interface with integrated Digital Diagnostic Monitoring
- Safety Certification: TUV/UL/FDA
- RoHS Compliant

Applications

- 100G Ethernet
- Data center

Ordering Information

Part number	Description
SV-QSFP-100G-FR	Starview QSFP28 100Gbps module 100GBase FR Single Lambda SM (LC) with Digital Diagnostic Monitoring (DDM), distance up to 2km

Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit
Storage Temperature	Ts	-40	+85	°C
Supply Voltage	Vcc	-0.5	3.6	V
Damage threshold	Rxdmg	5.5		dBm

Recommended Operating Conditions

Parameter	Symbol	Min.	Typical	Max.	Unit
Operating Case Temperature	Tc	0		70	°C
Power Supply Voltage	Vcc	3.135	3.3	3.465	V
Operating Relative Humidity	RH	5		85	%
Power Dissipation	P _D			4	W

* Power Supply specifications, Instantaneous, sustained and steady state current compliant with QSFP28 MSA Power Classification.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max	Unit	Notes
Transmitter						
Differential data input swing per lane		900			mV _{p-p}	
Differential input impedance	Z _{in}	90	100	110	ohm	
Stressed input parameters						
Eye width		0.57			UI	@TP4, all 3 PAM4 eyes, 1E-5
DC common mode voltage(V _{cm})		-350		2850	mV	
Receiver						
Differential output amplitude				900	mV _{p-p}	
Differential output impedance	Z _{out}	90	100	110	ohm	
Output Rise/Fall Time	t _r /t _f	9.5			ps	20%~80%
Eye width		0.57			UI	
Eye height differential		228			mV	@TP4, all 3 PAM4 eyes, 1E-5
DC common mode voltage(V _{cm})		-350		2850	mV	1

Notes: 1.V_{cm} is generated by the host. Specification includes effects of ground offset voltage

Optical Characteristics

Parameter	Symbol	Min.	Typical	Max.	Unit
Transmitter					
Signaling speed			53.125		Gbaud
Modulation format			PAM4		
Center wavelength	λ_C	1304.5	1310	1317.5	nm
Side-mode Suppression Ratio	SMSR	30			dB
Extinction Ratio	ER	3.5			dB
Transmit OMA	TxOMA	-0.2		4.2	dBm
Transmit average ^{*(note4)}	TxAVG	-2.4		4	dBm
Launch Power in OMA _{outer} minus TDECQ ^{*(note5)}		-1.6			dBm
Launch Power in OMA _{outer} minus TDECQ ^{*(note6)}		-1.5			dBm
Transmitter and dispersion eye closure	TDECQ			3.4	dB
Optical return loss tolerance ^{*(note7)}				17.1	dB
Receiver					
Signaling speed			53.125		Gbaud
Center wavelength	λ_C	1304.5	1310	1317.5	nm
Damage threshold		5.5			dBm
Receive Power (OMA _{outer})	RxOMA			4.7	dBm
Average receive power	RxAVG	-6.4		4.5	dBm
Receiver sensitivity(OMA _{outer}) ^{*(note8)}	SenOMA			-4.5	dBm
Receiver reflectance				-26	dB
LOS Assert	LOSA	-30			dBm
LOS De-Assert	LOSD			-15	dBm
LOS Hysteresis		0.5			dB

Note4: Average launch power(min) is informative and not the principal indicator of signal strength. A transmitter with launch power below this value cannot be compliant; however, a value above this does not ensure compliance.

Note5: for ER \geq 4.5dB

Note6: for ER $<$ 4.5dB

Note7: Transmitter reflectance is defined looking into the transmitter.

Note8: Sensitivity is specified at 2.4×10^{-4} BER